WHAT IS CLAIMED IS:

1. A method of delivering a polypeptide to a cell, comprising:

(a) contacting said cell with, in any order or combination, said polypeptide, a nucleic acid, a fluorescent molecule, and a cellular delivery molecule; and

(b) treating said cell with a treatment that results in the dissociation of said polypeptide from one or more of said nucleic acid, said fluorescent molecule, and said cellular delivery molecule.

2. The method of claim 1, wherein said treatment comprises irradiation.

3. The method of claim 1, wherein two or more of said polypeptide, said nucleic acid, said fluorescent molecule, and said cellular delivery molecule are admixed before said contacting.

4. The method of claim 1, wherein said cellular delivery molecule is a cellular delivery polypeptide.

5. The method of claim 4, wherein said cellular delivery polypeptide is a synthetic peptide.

6. The method of claim 4, wherein said polypeptide is comprised within a fusion protein that further comprises said cellular delivery polypeptide.

7. The method of claim 6, wherein said fusion protein further comprises an accessory polypeptide.

8. The method of claim 7, wherein said accessory polypeptide is an enzyme that has a nucleic acid as one of its reactants or one of its products.

9. The method of claim 8, wherein said accessory polypeptide is a recombinase.

10. The method of claim 9, wherein said recombinase is a site-specific recombinase.

11. The method of claim 9, wherein said nucleic acid comprises at least one site recognized by said site-specific recombinase.

12. The method of claim 4, wherein said cellular delivery polypeptide:

(a) comprises ***m***% basic amino acids, wherein *m*% is from about 50% to 100%;

(b) comprises a sequence of ***n*** contiguous basic amino acids, wherein ***n*** is any whole integer between 2 and about 75; and, additionally or alternatively,

(c) has an amino acid sequence that is not present in the amino acid sequence of a protein encoded by herpes simplex virus (HSV).

13. The method of claim 12, wherein said polypeptide is a recombinase.

14. The method of claim 13, wherein said recombinase is a site-specific recombinase.

15. The method of claim 14, wherein said nucleic acid comprises at least one site recognized by said site-specific recombinase.

16. The method of claim 4, wherein said cellular delivery polypeptide has a pI of from about 10.5 to about 14.

17. The method of claim 12, wherein an oligopeptide having the sequence of said ***n*** contiguous basic amino acids has a pI of from about 10.5 to about 14.

18. The method of claim 1, wherein said fluorescent molecule is a fluorescent polypeptide.

19. The method of claim 18, wherein said polypeptide is comprised within a fusion protein that further comprises said fluorescent polypeptide.

20. The method of claim 4, wherein said fluorescent molecule is a fluorescent polypeptide.

21. The method of claim 20, wherein said fluorescent polypeptide is comprised within a fusion protein that further comprises said polypeptide and, additionally or alternatively, said fluorescent polypeptide.

22. The method of claim 20, wherein one or more of said polypeptide, said cellular delivery polypeptide and said fluorescent polypeptide are comprised within a fusion protein that further comprises an accessory polypeptide.

23. The method of claim 22, wherein said accessory polypeptide is an enzyme that has a nucleic acid as one of its reactants or one of its products.

24. The method of claim 1, wherein said cellular delivery molecule is a nucleic acid binding protein.

25. The method of claim 24, wherein said nucleic acid binding protein is selected from the group consisting of a histone, a histonelike protein, and poly-Lysine, and combinations and derivatives thereof.

26. The method of claim 4, wherein two or more of said polypeptide, said nucleic acid, said fluorescent molecule, and said cellular delivery polypeptide are admixed before said contacting.

27. The method of claim 1, wherein said nucleic acid is an oligonucleotide.

28. A method of delivering a polypeptide to a cell, comprising:

(a) contacting said cell with, in any order or combination, said polypeptide, a nucleic acid, a fluorescent molecule, a cellular delivery molecule, and a transfection agent; and

(b) treating said cell with a treatment that results in the dissociation of said polypeptide from one or more of said nucleic acid, said fluorescent molecule, and said cellular delivery molecule.

29. The method of claim 28, wherein two or more of said polypeptide, said nucleic acid, said fluorescent molecule, and said cellular delivery molecule are admixed before said contacting.

30. The method of claim 28, wherein one or more of said fluorescent molecule and said cellular delivery molecule is a polypeptide.

31. A kit comprising at least one fluorescent molecule and at least one cellular delivery molecule.

32. The kit of claim 31, further comprising one or more elements selected from the group consisting of one or more transfection agents, one or more cells, one or more nucleic acids, one or more sets of instructions, and one or more photoilluminators and, optionally, a power supply therefor.

33. The kit of claim 31, wherein one or both of said cellular delivery molecule and said fluorescent molecule are polypeptides.

34. The kit of claim 33, wherein said cellular delivery polypeptide and said fluorescent polypeptide are comprised within a fusion protein.

35. The kit of claim 31, further comprising at least one RNAi molecule.

36. The kit of claim 31, further comprising one or more cells.

37. The kit of claim 36, wherein said cells are competent for transfection or transformation.

38. The kit of claim 36, wherein said cells express or overexpress dicer.

39. A kit comprising at least one transfection agent and at least one RNAi molecule.

40. The kit of claim 39, further comprising one or more elements selected from the group consisting of one or more cells, one or more recombinases, one or more recombination proteins, and one or more sets of instructions.

41. A complex comprising a cellular delivery polypeptide and an agent that is desirably taken up by cells, wherein said cellular delivery polypeptide comprises a fluorescent moiety.

42. The complex of claim 41, wherein the activity of said agent that is desirably taken up by cells is repressed within said complex.

43. The complex of claim 42, wherein said agent is activated once said agent dissociates from said complex.

44. The complex of claim 41, wherein the dissociation of said cellular delivery polypeptide from said complex is photoactivatable.

45. The complex of claim 41, wherein the dissociation of said agent that is desirably taken up by cells from said complex is photoactivatable.

46. The complex of claim 41, further comprising nucleic acid.

47. The complex of claim 41, wherein said nucleic acid comprises from about 5 bases to about 200 kilobases.

48. The complex of claim 46, wherein said nucleic acid is selected from the group consisting of mRNA, tmRNA, tRNA, rRNA, siRNA, shRNA, PNA, ssRNA, dsRNA, ssDNA, dsDNA, DNA:RNA hybrid molecules, plasmids, artificial chromosomes, gene therapy constructs, cDNA, PCR products, restriction fragments, ribozymes, antisense constructs, and combinations thereof.

49. The complex of claim 46, wherein said nucleic acid is an oligonucleotide.

50. The complex of claim 46, wherein said nucleic acid comprises one or more chemical modifications.

51. The complex of claim 46, wherein said nucleic acid is said agent that is desirably taken up by cells.

52. The complex of claim 46, wherein said cellular delivery polypeptide is comprised within a fusion protein with an accessory polypeptide.

53. The complex of claim 52, wherein said accessory polypeptide is biologically active.

54. The complex of claim 53, wherein said accessory polypeptide is selected from the group consisting of an affinity tag, an epitope, a protease cleavage site, a detectable polypeptide, an enzyme, a hormone, a receptor ligand, a receptor fragment, and an antibody or antibody derivative.

55. The complex of claim 41, wherein said fluorescent moiety is a fluorescent polypeptide.

56. The complex of claim 55, wherein said fluorescent polypeptide is comprised within a fusion protein with a second polypeptide.

57. The complex of claim 52, wherein said accessory polypeptide is said cellular delivery polypeptide.

58. The complex of claim 41, further comprising one or more transfection agents.

59. The complex of claim 41, further comprising one or more recombinases and, additionally or alternatively, a recombination protein.

60. A kit comprising the complex of claim 59.

61. A method of delivering a nucleic acid to a cell, comprising:

(a) contacting said cell with, in any order or combination, said nucleic acid, a fluorescent molecule, and a cellular delivery molecule; and

(b) treating said cell with a treatment that results in the dissociation of said nucleic acid from one or both of said fluorescent molecule and said cellular delivery molecule.

62. The method of claim 61, wherein said treatment comprises irradiation.

63. The method of claim 61, wherein said nucleic acid is biologically active following said treatment.

64. The method of claim 61, wherein said nucleic acid is dispersed in the cytoplasm of said cell following said treatment.

65. The method of claim 61, wherein said nucleic acid comprises from about 5 bases to about 200 kilobases.

66. The method of claim 61, wherein said nucleic acid is selected from the group consisting of mRNA, tmRNA, tRNA, rRNA, siRNA, shRNA, PNA, ssRNA, dsRNA, ssDNA, dsDNA, DNA:RNA hybrid molecules, plasmids, artificial chromosomes, gene therapy constructs, cDNA, PCR products, restriction fragments, ribozymes, antisense constructs, and combinations thereof.

67. The method of claim 61, wherein said nucleic acid is an oligonucleotide.

68. The method of claim 61, wherein said nucleic acid comprises one or more chemical modifications.

69. The method of claim 61, wherein said fluorescent molecule is not attached to said nucleic acid.

70. The method of claim 61, wherein said fluorescent molecule is attached to said cellular delivery molecule.

71. The method of claim 61, wherein said cellular delivery molecule is a cellular delivery polypeptide.

72. The method of claim 71, wherein said cellular delivery polypeptide is a synthetic peptide.

73. The method of claim 71, wherein said cellular delivery polypeptide:

(a) comprises ***m***% basic amino acids, wherein ***m***% is from about 50% to 100%;

(b) comprises a sequence of *n* contiguous basic amino acids, wherein ***n*** is any whole integer between 2 and about 75; and, additionally or alternatively,

(c) has an amino acid sequence that is not present in the amino acid sequence of a protein encoded by herpes simplex virus (HSV).

74. The method of claim 71, wherein said said cellular delivery polypeptide is comprised within a fusion protein.

75. The method of claim 74, wherein said fusion protein further comprises an accessory polypeptide.

76. The method of claim 75, wherein said accessory polypeptide is an enzyme that has a nucleic acid as one of its reactants or one of its products.

77. The method of claim 76, wherein said accessory polypeptide is a recombinase.

78. The method of claim 77, wherein said recombinase is a site-specific recombinase.

79. The method of claim 78, wherein said nucleic acid comprises at least one site recognized by said site-specific recombinase.

80. The method of claim 61, wherein said nucleic acid includes a sequence that encodes a protein or a portion thereof.

81. The method of claim 80, wherein said sequence encodes an amino acid sequence of a portion of a protein in said cell, wherein a cellular nucleic acid encoding said protein, or a portion thereof, is desirably replaced by said sequence.

82. The method of claim 80, wherein said protein is expressed in said cell.

83. The method of claim 73, wherein said cellular delivery polypeptide has a pI of from about 10.5 to about 14.

84. The method of claim 73, wherein an oligopeptide having the sequence of said ***n*** contiguous basic amino acids has a pI of from about 10.5 to about 14.

85. The method of claim 61, wherein said fluorescent molecule is a fluorescent polypeptide.

86. The method of claim 71, wherein said fluorescent molecule is a fluorescent polypeptide.

87. The method of claim 86, wherein said fluorescent molecule and said cellular delivery molecule are polypeptides that are comprised within a fusion protein.

88. A method of delivering a nucleic acid to a cell, comprising:

(a) contacting said cell with, in any order or combination, said nucleic acid, a fluorescent molecule, a cellular delivery molecule, and a transfection agent; and

(b) treating said cell with a treatment that results in the dissociation of said nucleic acid from one or more of said fluorescent molecule and said cellular delivery molecule.

89. The method of claim 88, wherein two or more of said nucleic acid, said fluorescent molecule, and said cellular delivery molecule are admixed before said contacting.

90. The method of claim 88, wherein one or more of said fluorescent molecule and said cellular delivery molecule is a polypeptide.

91. A molecular complex comprising one or more nucleic acids, one or more fluorophores, and one or more cellular delivery polypeptides, wherein each cellular delivery polypeptide:

(a) is ***m*** % basic amino acids, wherein ***m*** is from about 10% to 100%;

(b) comprises a sequence of ***n*** contiguous basic amino acids, wherein ***n*** is any whole integer between 2 and 50; and

(c) is not derived from a herpes simplex virus (HSV) protein.

92. The molecular complex of claim 91, wherein said fluorphore is covalently linked to either said nucleic acid or said cellular delivery polypeptide.

93. A composition comprising the molecular complex of claim 91.

94. The composition of claim 93 further comprising one or more agents selected from the group consisting of a transfection agent, a transfection enhancing agent, and an endosome disrupting agent.

95. A cell comprising the molecular complex of claim 91.

96. A composition comprising the cell of claim 95.

97. The composition of claim 96, wherein said cell remains viable after said composition is frozen.

98. The composition of claim 97, wherein said composition comprises glycerol.

99. A container comprising the molecular complex of claim 91.

100. A pharmaceutical composition comprising the molecular complex of claim 91 and a pharmaceutically acceptable excipient or carrier.

101. The pharmaceutical composition of claim 100, wherein one or more of said nucleic acid, said polypeptide and said fluorophore is biologically active.

102. The pharmaceutical composition of claim 100, wherein said nucleic acid is biologically active.

103. The pharmaceutical composition of claim 102, wherein said biologically active nucleic acid is selected from the group consisting of mRNA, tmRNA, tRNA, rRNA, siRNA, shRNA, PNA, ssRNA, dsRNA, ssDNA, dsDNA, DNA:RNA hybrid molecules, plasmids, artificial chromosomes, gene therapy constructs, cDNA, PCR products, restriction fragments, ribozymes, antisense constructs, and combinations thereof.

104. The pharmaceutical composition of claim 100, wherein said polypeptide is biologically active.

105. A method of treating an individual suffering from a disease or disorder, said method comprising contacting said individual with the complex of claim 91, the composition of claim 93, or the pharmaceutical composition of claim 100.

106. The method of claim 105, further comprising exposing said individual to electromagnetic radiation.

107. A method of providing gene therapy to an individual in need thereof, comprising contacting said individual, or cells therefrom, with the complex of claim 91, the composition of claim 93, or the pharmaceutical composition of claim 100.

108. A method of determining a cellular response to a test compound comprising:

(a) contacting a first cell with, in any order or combination, a first nucleic acid, a fluorescent molecule, and a cellular delivery molecule;

(b) contacting a second cell with, in any order or combination, a second nucleic acid, said fluorescent molecule, and said cellular delivery molecule;

(c) treating said cells with a treatment that results in the dissociation of said polypeptide from one or more of said nucleic acid, said fluorescent molecule, and said cellular delivery molecule;

(d) contacting said cells with said test compound, before (a); during (a), (b) or (c); between (a) and (b); between (b) and (c); and, additionally or alternatively, after (c);

(e) detecting a signal from said cells, wherein said signal corresponds to a cellular response; and

(f) comparing the signal from said first cell with the signal from said second cell.

109. The method of claim 108, wherein one or more of said cells comprises one or more reporter genes.

110. The method of claim 108, wherein one or more of said nucleic acid, said cellular delivery molecule and said fluorophore is biologically active.

111. The method of claim 108, wherein said nucleic acid is biologically active.

112. The method of claim 111, wherein said biologically active nucleic acid is selected from the group consisting of mRNA, tmRNA, tRNA, rRNA, siRNA, shRNA, PNA, ssRNA, dsRNA, ssDNA, dsDNA, DNA:RNA hybrid molecules, plasmids, artificial chromosomes, gene therapy constructs, cDNA, PCR products, restriction fragments, ribozymes, antisense constructs, and combinations thereof.

113. A method of identifying a compound having a preselected activity or effect comprising:

(a) contacting a first cell with, in any order or combination, a first nucleic acid, a fluorescent molecule, and a cellular delivery molecule;

(b) contacting a second cell with, in any order or combination, a second nucleic acid, a fluorescent molecule, and a cellular delivery molecule;

(c) treating said cells with a treatment that results in the dissociation of said polypeptide from one or more of said nucleic acid, said fluorescent molecule, and said cellular delivery molecule;

(d) contacting said cells with said test compound, before (a); during (a), (b) or (c); between (a) and (b); between (b) and (c); and, additionally or alternatively, after (c);

(e) detecting a signal from said cells, wherein said signal corresponds to a cellular response; and

(f) comparing the signal from said first cell with the signal from said second cell,

wherein a difference in the signal from first cell from the signal from said second cell corresponds to said preselected activity or effect.

114. The method of claim 113, wherein one or more of said cells comprise one or more reporter genes.

115. The method of claim 113, wherein one or more of said nucleic acid, said cellular delivery molecule and said fluorophore is biologically active.

116. The method of claim 113, wherein said nucleic acid is biologically active.

117. The method of claim 116, wherein said biologically active nucleic acid is selected from the group consisting of mRNA, tmRNA, tRNA, rRNA, siRNA, shRNA, PNA, ssRNA, dsRNA, ssDNA, dsDNA, DNA:RNA hybrid molecules, plasmids, artificial chromosomes, gene therapy constructs, cDNA, PCR products, restriction fragments, ribozymes, antisense constructs, and combinations thereof.